THE ROLE OF CERTIFIED REGISTERED NURSE ANESTHETISTS IN PATIENT EDUCATION

by

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CHAPTER I: INTRODUCTION

Advanced practice nurses (APNs) have a professional responsibility, within a supportive-educative nursing system, to provide patients with health related education. Certified registered nurse anesthetists (CRNAs) should assess their patients' health education needs, and then either provide or assist them in obtaining the required information. This can be accomplished within the perioperative settings or outside of operating rooms.

Background

Nurses accept patient education as an integral part of their work, yet many do not think of themselves as adult educators (Hansen & Fisher, 1998). APNs typically have close contact with, and often establish a special rapport with patients. APNs can use this relationship as an opportunity to provide required educational activities. CRNAs have an intensive "one-on-one" professional relationship with patients throughout the perioperative experience, and thus may have many opportunities to engage in educational activities.

Lookinland and Pool (1998) found that preadmission education is a cost-effective mechanism that supports the informational needs of patients undergoing surgical procedures. However, this is often left until the end of the patient's stay, in part because of fast-paced preadmissions during which blood analysis, electrocardiograms, histories and physical examination must be completed. Patient teaching during the preoperative setting may be fragmented, ineffective or even nonexistent because of the busy perioperative environments. Studies demonstrate that nurses sometimes use the

perioperative setting to teach patients about operative procedures and pain management techniques (Johnson, 1989). No studies were found in a search of Medline and CINHAL (1980 to 1999) that examined the role of CRNAs as patient educators.

Surgical patient care challenges perioperative nurses because patients have different perceptions about their surgical experiences (Gillette, 1996). Thus, perioperative nurses must adapt their teaching styles and methods to accommodate patients' individual needs. They must strive to strike the right balance of caring, concern, and information given during interactions with patients so that anxiety and stress are reduced to a manageable level (Lancaster, 1997).

Results from a study conducted by Lookinland and Pool (1998) demonstrated that when preoperative information is relayed clearly, patients arrive on time, understand their plan of care, and have knowledge and skills needed for early discharge. Effective communication in teaching is an essential part of education (Gaynor & Patyk, 1998). Nurses who use knowledge about teaching and learning processes are more effective patient educators (Hansen & Fisher, 1998).

The preoperative consultation has at least six purposes: a) to assess and ensure the readiness of patients for anesthesia and surgery; b) to choose an anesthetic and educate patients regarding the planned anesthetic technique; c) to reassure patients and reduce anxiety; d) to discuss postoperative care plans and pain therapy options; e) to decrease costs by improved outcome; f) to reduce length of stay; g) and to facilitate patient care team communication; and to obtain informed consent (Klafta & Roizen, 1996).

CRNAs have a strong knowledge base from which they can draw to inform their patients about a variety of health related issues. Some CRNAs are involved in teaching outside the perioperative area and engage in health promotional activities for the general population, for example, healthy heart programs. Some CRNAs also provide instruction to peers and other health care professionals by instructing in advanced cardiac life support (ACLS) and critical care classes.

The 1994 Joint Commission on Accreditation of Health Care Organization's (JCAHO) report brought patient education to the forefront. Although current JCAHO guidelines do not require a designated education coordinator, one is recommended to facilitate educational continuity (Miller & Capps, 1997).

Problem Statement

The number of same-day surgery patients is increasing and, paradoxically, the frequency of preoperative education is decreasing. This is due in part, to hurried admissions and discharges (Johnson, 1989). Same day surgery staff nurses often have heavy patient loads, which do not allow time for patient teaching. In this current environment it may be that the intensive "one-on-one" perioperative time CRNAs spend with patients will become more critical for teaching purposes.

Eijk (1998) states that clinical health promotion is the link between concepts of patient education and health promotion. During the preoperative interview, CRNAs have the full attention of patients and can educate them about perioperative issues as well as a variety of health related issues. There is little professional literature about the role of CRNAs as patient educators within supportive-educative nursing systems.

Purpose Statement

Lancaster (1997) states that patient teaching is an integral component of perioperative preparation and occurs each time nurses speak to patients and families. The purpose of this study was to describe the role of CRNAs in perioperative patient education within supportive-educative nursing systems.

Research Questions

1. Are CRNAs engaged in patient teaching within supportive-educative nursing systems in the perioperative settings?
2. Are CRNAs engaged in patient teaching within supportive-educative nursing systems outside perioperative settings?
3. Do CRNAs document their supportive-educative activities?

Theoretical Framework

The self-care model for nursing developed by Orem (1995) provides the theoretical framework for this research. In this framework patients take responsibility for their care while seeking guidance from practitioners to assist them. With increased access to information, patients should ask more questions about their disease processes. Health promotion behavior can be conceptualized as one type of self-care activity within Orem's framework (Hartweg, 1990).

Orem's theory focuses on assisting individuals toward independence while maintaining self-care as long as possible. Health care related education provided by nurses often helps facilitate self-care (Johnston, 1989).

Nurses can provide support, guidance, and education to help patients achieve therapeutic self-care (Orem, 1995). Orem's conceptualization of a supportive-educative nursing system is consistent with Simmons (1990) client-professional interaction elements. A supportive-educative nursing system is important for health promotion and is initiated by individuals who require nursing guidance and teaching for performance of self-care. A heightened awareness of patient education is vital to the delivery of effective, timely, and well documented plans of care by all disciplines (Gaynor & Patyk, 1989).

In Figure 1, the integrated supportive-educative nursing system described by Orem (1995) is graphically depicted. In this system the patient, who is the prime decision-maker, has a need for health related knowledge in order to achieve therapeutic self-care. Nurses provide an environment supportive to patients efforts for self-care, and educational activities to meet their needs for knowledge.

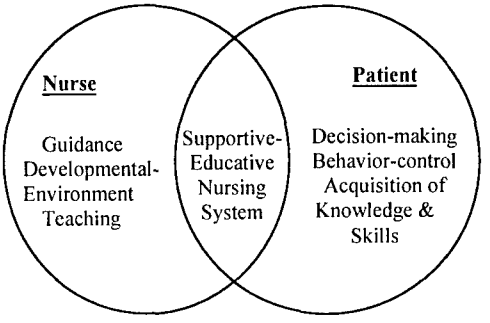

Figure 1.
Graphic Representation of Dorthea Orem's Supportive-Educative Nursing System.

Definitions

1. Conceptual definition of Certified Registered Nurse Anesthetist. A nurse certified by the American Association of Nurse Anesthetists Council of Certification, to administer anesthesia to patients.

2. Operational definition of Certified Registered Nurse Anesthetist. An officer in the United States Air Force certified by the American Association of Nurse Anesthetists Council of Certification, who is currently practicing as a nurse anesthetist.

3. Conceptual definition of supportive-educative activities.

Those nursing activities which provide support, guidance, and health related education to help patients achieve therapeutic self-care.

4. Operational definition of supportive-educative activities in the perioperative setting. Those patient educational activities CRNAs engage in prior to, during, and after the administration of an anesthetic.

5. Operational definition of supportive-educative activities in areas other than the perioperative setting. Those educational activities CRNAs engage in that take place outside of the perioperative setting.

6. Conceptual definition of documenting. The use of written description of events.

7. Operational definition of documenting. A written record of the educational activities CRNAs provide.

Assumptions

1. Involvement in health care related educational activities is one aspect of the advanced practice role of CRNAs.
2. CRNAs are involved in patient educational activities.

Limitations

1. This was a descriptive study of United States Air Force Certified Registered Nurse Anesthetists, which limits its generalizablity to all CRNAs.
2. The respondents may have been from only a select number of Air Force bases decreasing the generalizability even further.

Summary

The role of advanced practice nurses is diverse and includes patient educational activities to assist patients in achieving therapeutic self-care. As patient educators, CRNAs have many opportunities to inform patients about health-related issues in the perioperative setting. As patients increase their health care knowledge they may become more involved in therapeutic self-care. In the next chapter, research studies that have been conducted about the health care education of patients will be presented.

CHAPTER II: REVIEW OF LITERATURE

Introduction

In a review of literature using Medline and CINHAL databases (1980 to 1999), no journal articles were found about the role of CRNAs in patient health related education. Research about the role of nurses in patient education were found, and in this chapter some of these will be presented.

Review of Literature

It has been documented that smoking cessation is beneficial to health. Haddock and Burrows (1997) evaluated the nurse's role in health promotion smoking cessation programs. Sixty subjects from surgical pre-admission clinics, who used various forms of tobacco including cigarettes, snuf, and chewing tobacco volunteered to participate in the study. Patients in the treatment group were admitted 7-14 days prior to their surgery and given smoking cessation education. The control group received no treatment and were interviewed upon discharge. Findings were that 80% of patients who had received preoperative smoking cessation information had stopped smoking prior to surgical admission. Fifty percent of the group receiving no treatment had also stopped smoking prior to surgical admission. Interestingly, volunteers reported that as the study progressed nurses seemed to gain insight and became more skillful in teaching. This suggests that with repeated experiences in patient education nurses can increase their knowledge and skill in conducting supportive-educative health promotional activities.

Furlow and O'Quinn (1996) examined the effects of patient education on smoking cessation with post myocardial infarction patients. They demonstrated that 71% of

patients in the intervention group stopped smoking after receiving cessation education. This was verified biochemically by obtaining saliva cotinine levels. The educational material included an 18-page manual and two audiotapes explaining the material in the manual. Subjects were also taught progressive relaxation techniques, and other methods they could use during situations where smoking relapses could occur.

Clark, Haverty, and Kendall (1990) demonstrated that patient education along with supportive nursing care can influence smoking behavior. In this study, 20 nurses received training about strategies to use in teaching patients how to stop smoking. Sixty-eight smokers were then enrolled into the study, however due to attrition only 42, two-thirds of the original sample were interviewed one year following their education. Findings were that after one year, 17% of the patients who were interviewed had stopped smoking, and 43% had made at least one attempt to stop.

Surgery is an experience that can be psychologically and physically threatening to patients. Preoperative patient psychoeducation is often focused on reducing anxiety and influencing patients attitudes and feelings about the surgical event (Rothrock, 1989). Patient education can be an important nursing intervention in decreasing the physical and psychological trauma of surgery (Kempe, 1987). In the past, nurses working in surgical settings had more time for patient education. However, today nurses who admit ambulatory surgical patients are challenged to educate patients in a very short time. Studies have been conducted in which preoperative teaching was found to reduce patient anxiety and postoperative complications and increase patient satisfaction (Kempe, 1987; Rothrock, 1989).

A study conducted by Brumfield, Kee, and Johnson (1996) investigated differences between patients and nurses perceptions of preoperative teaching. A series of items were presented to 30 patients and 29 nurses, and they were asked to rank them in order of importance. Both patients and nurses ranked "when events will occur" as the number one concern. Patients and nurses agreed again on the number four choice "expressing concerns, worries." Findings in this study demonstrate that preoperative nurses should listen to surgical patients and tailor their educational activities to meet patient needs. Since patients concerned with the sequence of surgical events nurses should focus some of their instruction on this.

A study conducted by Schoessler (1989) examined the importance of pre-operative patient education based on five dimensions; situational information, sensation/discomfort information, role information, psychosocial support, and skills training. Results were that patients (n=116) primary preoperative concern was for psychosocial support. Psychosocial support is important to patients because it makes them feel more involved in their total care plan. Patients in this study desired psychosocial support to begin prior to hospital admission. CRNAs spend time with patients during the preoperative assessment and can utilize some of this time to help reduce preoperative anxiety.

Studies have been published about perioperative nurses helping patients through preoperative instruction to manage the adversities of surgery (Oetker-Black, Teeters, Cukr, & Rininger, 1997). In patients who have had preoperative instruction increased self-efficacy has been demonstrated to improve postoperative outcomes. Pellino et al.

(1998) demonstrated that patients exposed to structured self-efficacy instruction were better prepared for their surgical procedure than those receiving no formal instruction. An experimental group of 39 patients received information in a learning center where the staff was trained in empowerment and had dedicated time for teaching. Thirty-nine patients received education in the learning center where videotapes of specific procedures could be viewed. Nurses trained in empowerment were available for individual teaching sessions. The learning center had fewer distractions than the clinic. A control group of 35 patients received their education by an instructional packet and group education. Results were that patients receiving individualized education and self-empowerment were more knowledgeable about their procedures.

Many patients assessed by CRNAs have medical diagnoses, and diabetes mellitus is one of the more common endocrine disorders encountered. Often patients with diabetes do not understand how their diabetes relates to their surgery (Ouellette, 1998). When interviewing patients with diabetes mellitus CRNAs should assess their informational needs about diabetes care, and through a supportive-educative model help patients increase their knowledge base.

Studies on education about diabetes provided by primary care providers have demonstrated that allocation of instructional time and active learner involvement are necessary for achievement gains (Ahroni, 1998). It is important for health care providers to recognize individual patient needs and tailor educational activities to them. Education can be considered a form of treatment for diabetes and thus an integral part of primary care. Intensive education about diabetes has been associated with a 50%-70% reduction

in the development and progression of diabetic retinopathy, neuropathy, and nephropathy.

Medication-induced illness is a particular concern with the elderly. Approximately 24% of the elderly population make mistakes in taking their medication. In addition, they are often prescribed multiple medications from multiple physicians for various medical conditions. Therefore, when CRNAs converse with patients and review their medication regime they are in a unique position to educate them about the purpose and side effects of medications. Medication errors in the elderly can be dramatically reduced when verbal instruction is given. Esposito (1995) studied 42 patients who were divided into four groups. Group 1 received a medical fact sheet and a discharge sheet; Group 2 received a medical fact sheet and 30 minutes of verbal instruction on their medication. The same medical fact sheet written in large dark lettering listing drug side effects was given to Group 3 along with dosing schedules. A medication schedule and 30 minutes of verbal instruction were given to Group 4. Results were that patients who received a medication schedule had fewer errors taking their medication than those with no schedules. Thus, CRNAs might ask patients if they have developed written medication schedules and encourage those who have not, to do so.

Hawe and Higgins (1990) evaluated the effects of an education about medication, (ED MED) program. They exposed patients to different types of teaching materials and found patients who had received education about medication from the discharge nurse had significantly reduced medication error rates compared to the control group. The experimental group (n=149) was given drug cards, informational packets, and

individualized instruction. The control group (n=119) received no intervention. The groups were tested at one and three months. They found that patients in the experimental group were less likely to underdose their medication.

Summary

In this chapter, studies about perioperative patient education were presented. Studies have been conducted demonstrating positive results when patients are educated about health related issues. Nurses' involvement in patient education as been associated with smoking cessation, anxiety reduction during the perioperative period, improvement in self-efficacy, reduction in medication error, and improvement in overall health. CRNAs have an opportunity to participate in patient education in the perioperative setting. In the next chapter research design, sampling, and measurement methods will be presented.

CHAPTER III: METHODS

Introduction

In this chapter, the methods used in the study are discussed. Research design, sample, setting, plan for analysis and protection of human rights are presented.

Research Design

This was a descriptive survey. Decision trees (Burns & Grove, 1997) for selecting research design were used to select the type of study design. This design provided a means to describe the role of CRNAs in patient education.

Sample and Setting

The participants in this study were all active duty United States Air Force (USAF) CRNAs actively engaged in the practice of anesthesia. A complete listing of all Air Force CRNAs was obtained from the USAF nurse consultant for anesthesia.

Methods

The data collection instrument used for this study was a questionnaire developed by the investigator (see Appendix A). The questionnaire requested demographic information including: number of years practicing as a CRNA, size of medical facility where participants practice and average number of surgical cases performed annually. The questionnaire contained items to assess if CRNAs are engaged in patient education in or outside the perioperative setting. The questionnaire was mailed to the chief CRNA of each medical facility where CRNAs were stationed. Each CRNA assigned to the facility had a personally addressed questionnaire, which was distributed by the chief CRNA. An informational letter (see Appendix B) describing the purpose of the study, instructions for

completing the questionnaire, the questionnaire control number assigned by the USAF, and a self-addressed stamped return envelope was enclosed with each questionnaire.

After approval from the USUHS Institutional Review Board (IRB), the questionnaire was submitted to the USAF for approval for use with active duty service members.

Protection of Human Rights

This study proposal was presented to the USUHS IRB for approval. Anonymity of the subjects was assured, as respondents were asked not to disclose their name or rank. Questionnaires were not coded, and upon return were separated from their corresponding envelopes to eliminate postmark identification. Any identifying information that may have been contained on the completed questionnaire was removed prior to analysis.

Data Analysis

The data were analyzed using the Statistical Package for the Social Sciences (SPSS, version 9.0). The analysis was descriptive. In an effort to increase understanding of CRNA educational activities, the comment section on the questionnaires was analyzed qualitatively using content analysis.

Summary

The study was a descriptive survey using a questionnaire designed by the researcher. Questionnaires were distributed to CRNAs at each USAF medical facility. Data were analyzed using SPSS and content analysis.

CHAPTER IV: ANALYSIS OF DATA

Introduction

A descriptive study was undertaken to determine the educational practices of United States Air Force Certified Registered Nurse Anesthetists. Two hundred and one questionnaires were mailed to the chief CRNAs and distributed to all active duty United States Air Force Certified Registered Nurse Anesthetists. Eighty-six questionnaires were returned giving a response rate of 43%. Data were entered into SPSS and means, frequencies and standard deviations were generated. Demographic data were cross-tabulated to help determine relationships.

Sample

One half of the respondents (n=43) reported practicing as a CRNA for less than five years. Thirty-nine percent (n=34) reported 5 to 10 years of practice, 3% (n=3) reported 10 to 15 years, and 7%(n=6) reported more than 15 years of experience as a CRNA.

The number of inpatient beds at the medical treatment facility (MTF) was also examined. Sixteen percent (n=14)of respondents work in facilities with no inpatient beds, 46% (n=40) work in facilities with 1 to 50 beds; 20% (n=17) work at facilities with 51-100; 6% (n=5) at facilities with 101 to 150 beds; and 12% (n=10) at facilities with more than 150 inpatient beds.

Eighty four percent (n=72) of respondents reported they administer more than 300 anesthetic per year, while 16% (n=14) reported administering less than 300 anesthetics annually.

Fifty eight percent (n=50) of respondents reported that the facilities where they work provided an anesthesia residency program for either student registered nurse anesthetists or physician anesthesia residents. Respondents (n=55) indicated that of the medical facilities where they work which have residency programs, 66% have fewer than 100 inpatient beds. Thirty-three percent (n=28) of respondents listed their medical treatment facility as a primary site for an anesthesia residency. Of the respondents who listed their medical treatment facility as a primary anesthesia clinical site, 15% have 1 to 50 inpatient beds; 44% have 51 to 100 inpatient beds; 11% have 101 to 150 inpatient beds; and 30% have greater than 150 inpatient beds.

Data Analysis

The majority of respondents (90%, n=76) reported perioperative patient education centered on explanations to patients and family of proposed anesthetic plans. This included explanations of the risks, benefits and alternatives to planned anesthetics. Some respondents included information about what patients could expect in the post operative experience as well. Respondents also reported they provided education to family members about anesthesia. One respondent reported providing education about medications and herbal supplements patients may be currently taking. Two respondents reported that they include the role of the CRNA as a part of their perioperative patient education. Some reported that attention was given to the spiritual well being of patients.

When asked about other educational activities, 10% (n=9) of respondents reported they view their role as educators occurs primarily in the perioperative arena. This included education of physician assistants, operating room personnel, post anesthesia care

unit staff, and dental residents. The instruction focuses mainly on the starting of intravenous lines and management of patients airways.

When asked, "What makes your role in patient education easier or more difficult for you," 40% (n=33) responded that prior nursing experience made it easier. The following are some narratives they provided:

- "Teaching is an inherent part of nursing."

-"It is as natural as breathing."

- "A knowledgeable patient is more cooperative and satisfied."

Respondents also reported that several things enhance perioperative patient education. Seven percent (n=6) indicated that the availability of handouts was helpful.

Twenty-two percent (n=18) of the respondents stated their teaching tasks are made more difficult because of lack of time and heavy surgical caseloads. During the perioperative educational experiences, 20% (n=17) of the respondents reported that patient anxiety, communication barriers, and interruptions from other surgical staff members made their job as patient educators more difficult. Respondents also reported that a lack of opportunity, lack of supplies, and uninterested patients made their job as a patient educator more difficult. The following are some narratives they provided:

"I hate being rushed and I generally feel people are very thankful with understanding their anesthetic."

"Although it is very convenient to do teaching at the bedside, rapid turnover rates place a time constraints on the teaching."

"Patients are already frustrated of angry because the preoperative system takes too

much of their time and seems disorganized."

Respondents also reported that they participated in patient education outside the perioperative setting. Sixty five percent (n=17) reported that they participated in prenatal education of expectant mothers. This includes formally teaching classes associated with labor epidurals and other methods available for pain control, as well as an informal "one-on-one" education at the bedside. The following narratives illustrate this obstetrical education:

"I often enjoy the role as teacher, but can find many patients are misinformed and have developed fears that are difficult and sometimes impossible to overcome."

"I teach patients about labor epidurals and their options for labor analgesia."

Eighty one percent (n=69) of the surveyed CRNAs, reported that documentation of patient education is important. However, they differ in opinion as to where this documentation should exist. Respondents (n=55) reported that "patient educational activities should be documented in patients records, or on the surgical/anesthesia informed consent, or that patient educational activities should be documented in Officer Performance Record so CRNAs get credit for extra duties which will help strengthen promotion opportunities." Also reported was that patient educational activities should be documented, but there was uncertainty about where to document it. Two CRNAs reported that patient educational activities should be documented in the manning/activity report that goes before hospital commanders so they are aware of the activities CRNAs engage in outside operating rooms.

There is a wide range of educational activities. For example, providing

professional education to other health care providers is another aspect of the CRNA role. Sixty nine percent (n=48) of respondents reported that they teach Advanced Cardiac Life Support (ACLS). "I teach ACLS to the staff at the medical center. Not only does it keep me up to date with skills, but it also is recorded in my OPR." Fifteen percent (n=10) reported that they participate in teaching ACLS along with Basic Life Support (BLS) and Pediatric Advanced Life Support (PALS). Twelve percent (n=9) of respondents reported that they participate in pain management education in clinics. "I run the acute pain clinic. We do mostly back pain and epidural steroids." Two CRNAs (3%) reported that they teach grade school children about health maintenance, basic life saving, and the Heimlich maneuver. "I teach the Heimlich maneuver to elementary students and also help neighbors with health related issues." Three CRNAs reported that they teach para rescue personnel intravenous access techniques and operating room personnel about management of malignant hyperthermia. Four CRNAs reported that they teach nurse anesthesia students in a formal university setting. Only one CRNA reported that she/he instruct operating room and Intensive Care Unit (ICU) staff. However, this education included post anesthesia recovery, post operative epidural pain management and recognition and treatment of malignant hyperthermia. Conscious sedation is taught to dental residents by two of the responding CRNAs. "With conscious sedation being done in other areas of the medical facility, I educate the dental residents on safe sedation." CRNAs (n=18) reported they have no professionally directed educational activities due to either a lack of time or their educational role being replaced with civilian educational contractors.

Content Analysis

Many themes emerged from the comments section of the questionnaire. Some of the views and interests of the CRNAs that were surveyed revealed in the themes include: a) choices for the patient, b) expectations of the patient, c) topics of education, and d) the role of the anesthesia provider.

Many CRNAs described providing their patient with choices in their anesthetic plan of care as long as the surgical case warrant choices. These choices included the type of anesthetic: general anesthesia, regional anesthesia, or monitored anesthesia care. In order for the patients to be informed and make the right decision, CRNAs informed them about the risks benefits and alternatives to each method of anesthesia. One comment from a CRNA was the discussion of anesthetic techniques and related risks and possible complications. Another CRNA explained the options of labor anesthesia to expectant mothers.

An additional theme conveyed throughout the narrative comments was the expectations of the patient. Many respondents felt that by informing the preoperative patient of what is expected, the level of anxiety is decreased and the overall experience of surgery is positive. CRNAs encouraged discussion of anesthesia fears and concerns the patient may have had. One CRNA found it difficult to educate parents about their child's anesthetic due to their parents' high level of anxiety. " I find it very difficult to educate the parents. As the child gets more apprehensive, the parents anxiety level also increases. They kind of feed one another's anxiety." Other CRNAs explained to the patient what to expect during the postoperative course specific to pain management and level of

ambulation.

Many of the CRNAs found that time was a limiting factor in their practice of anesthesia. The amount of time in preparing to provide the optimal anesthetic to the patient was too much. They also felt that the time scheduled to conduct preoperative interviews was not adequate to fully discuss the anesthetic plan.

Topics covered during anesthesia related education was another theme woven throughout the narrative comments. CRNAs inform patients of the importance of the order for nothing by mouth after midnight before surgery. They also counsel the patient on smoking cessation and blood glucose regulation along with diet control. Another important theme was what medications to take and possible interactions medications may have with anesthesia. Today many people are taking herbal supplements and do not consider this as a "medication." Many of these supplements have interacions with the perioperative process. For example, echinacea interferes with the cytochrome P-450 3A4 which is the same metabolic pathway as phenobarbital. Garlic is used as a vasodilator. But it has antiplatelet properties predisposing the patient to bleeding during surgery.

Many CRNAs greet their patients by informing them of their role as a certified registered nurse anesthetist. Explanations about other members of the anesthesia team and how the team is composed usually follow this greeting. CRNAs and anesthesiologists have defined roles. During the preoperative interview the CRNA is required to consult the Anesthesiologist on American Society of Anesthesiologists (ASA) physical status III or greater patients. Local policy often requires the CRNA to consult with the Anesthesiologist on ASA III and greater patients or a child under 2 years of age.

Some CRNAs surveyed felt this might limit their practice. Whereas others conveyed they have plenty of autonomy in their practice of anesthesia and did not see this as a limitation.

Summary

Findings from USAF CRNAs reveal that many CRNAs are engaging in educational practices both in and out of the operating room. These educational activities are directed at patient as well as other health care providers, and demonstrate that CRNAs are fulfilling their role as advanced practice nurses by engaging in educational activities.

CHAPTER V: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

A descriptive study was conducted to determine the educational practices of United States Air Force Certified Registered Nurse Anesthetists. Although studies have described the role of advanced practice nurses as educators, no study was found that described the role of the CRNA as a patient educator. Questionnaires were sent to all United States Air Force CRNAs. Analysis of their responses help describe the current practice of CRNAs as patient educators.

Conclusions

United States Air Force Certified Registered Nurse Anesthetists are engaged in a supportive educative role in the perioperative setting as well as outside the operating room. USAF CRNAs are involved in teaching patients about proposed anesthetic plans. They educate patients about medications, disease processes, and life style changes such as smoking cessation. USAF CRNAs are involved in teaching Advanced Cardiac Life Support, Basic Life Support, labor epidural classes and airway management to military and civilian personnel. Most USAF CRNAs document their teaching activities but are not consistent in the process of documentation. USAF CRNA are fulling the role of an advanced practice nurse by engaging in education of patients and professional staff.

Recommendations for Future Studies

The study could be repeated to include CRNAs from other military branches and civilian CRNAs. This would provide a broader scope of education activities of the CRNA. The timing of when the education takes place and the effectiveness of various

methods could also be studied. Identified themes could be further explored to better define practices that balance appropriate content, timing, and methods. Additional studies which consider the unique teaching requirements for the patients who have difficulty understanding English or profound cultural differences could be undertaken in other CRNA practice environments.

REFERENCES

Ahroni, J. (1998). Diabetes education and the primary care provider. Nurse Practitioner Forum, 9, 66-68.

Brumfield, V., Kee, C., & Johnson, J. (1996). Preoperative patient teaching in ambulatory surgery settings. AORN Journal, 64, 941-952.

Burns, N., & Grove, S. (1997). The practice of nursing research conduct, critique, & utilization (3rd ed.). Philadelphia: W. B. Saunders.

Clark, J., Haverty, S., & Kendall, S. (1990). Helping people to stop smoking: A study of the nurse's role. Journal of Advanced Nursing, 16, 357-363.

Eijk, J. (1998). How we can bridge the gap between health care providers and patients? Patient Education and Counseling, 33, 59-61.

Esposito, L. (1995). The effects of medication education on adherence to medication regimens in an elderly population. Journal of Advanced Nursing, 21, 935-943.

Furlow, L., & O'Quinn, J. (1996). When the nurse says "stop," smokers listen. American Journal of Nursing, 96, 57-58.

Gaynor, S., & Patyk, M. (1998). Putting the pieces in place: The patient education puzzle. Journal of Nursing Care Quality, 12(3), 64-68.

Gillette, V. (1996). Applying nursing theory to perioperative nursing practice. AORN Journal, 64, 261-264 & 267-268.

Haddock, J., & Burrows, C. (1997). The role of the nurse in health promotion: An evaluation of a smoking cessation programme in surgical pre-admission clinics. Journal of Advanced Nursing, 26, 1098-1110.

Hansen, M., & Fisher, J. (1998). Patient-centered teaching from theory to practice. American Journal of Nursing, 98(1), 58-60.

Hartweg, D. (1990). Health promotion self-care within Orem's General Theory of Nursing. Journal of Advanced Nursing, 15, 35-41.

Hawe, P., & Higgins, G. (1990). Can medication education improve the drug compliance of the elderly? Evaluation of an in hospital program. Patient Education and Counseling, 16, 151-160.

Johnson, S. (1989). Preoperative teaching: A need for change. Nursing Management, 20, 80B, 80F, & 80H.

Johnston, R. (1989). Orem's Self-Care Model for Nursing. In Fitzpatrick, J. & Whall, A. (Eds.), Conceptual models of nursing (2nd ed., pp. 165-183). East Norwalk, Connecticut: Appleton & Lange.

Kempe, A. (1987). Patient education for the ambulatory surgery patient. AORN Journal, 45, 500-507.

Klafta, J., & Roizen, M. (1996). Current understanding of patients' attitudes toward and preparation for anesthesia: A review. Anesthesia & Analgesia, 83, 1314-1321.

Lancaster. K. (1997). Patient teaching in ambulatory surgery. Nursing Clinics of North America, 32, 417-418, 420, 422-424, & 426.

Lookinland, S., & Pool, M. (1998). Study on effects of methods of preoperative education in women. AORN Journal, 67, 203-213.

Miller, B., & Capps, E. (1997). Meeting JCAHO patient-education standards. Nursing Management, 28, 55-57.

Oetker-Black, S., Teeters, D., Cukr, P., & Rininger, S. (1997). Self-efficacy enhanced preoperative instruction. AORN Journal, 66, 854-864.

Orem, D. (1995). Nursing concepts of practice (5th ed.). St. Louis: Mosby-Year Book.

Ouellette, S. (1998). AANA journal course: Updates for nurse anesthetists-diabetes mellitus: Overview and current concepts in anesthetic management. Journal of the American Association of Nurse Anesthetist, 66, 65-76.

Pellino, T., Tluczek, A., Collins, M., Trimborn, S., Norwick, H., Engelke, Z., & Broad, J. (1998). Increasing self-efficacy through empowerment: Preoperative education for orthopaedic patients. Orthopaedic Nursing, 17, 48-63.

Rothrock, J. (1989). Part I: Preoperative Psychoeducational interventions. AORN Journal, 49, 597-616.

Schoessler, M. (1989). Perceptions of pre-operative education in patients admitted the morning of surgery. Patient Education and Counseling, 14, 127-136.

Simmons, S. (1990). The health-promoting self-care system model: Directions for nursing research and practice. Journal of Advanced Nursing, 15, 162-166.

APPENDICES

Appendix A- Questionaire

Appendix B- Cover Letter

Appendix C- Time Line

APPENDIX A

Questionnaire

THE ROLE OF CERTIFIED REGISTERED NURSE ANESTHETISTS IN PATIENT EDUCATION

1) How many years have you been practicing as a Certified Registered Nurse Anesthetist? (circle one)
1) less than 5 years 2) 5-10 years 3) 10-15 years 4) more than15 years

2) How many inpatient beds are there at the medical treatment facility where you work? (circle one)
1) 0 2) 1-50 3) 51-100 4) 101-150 5) more than150

3) What is the average annual surgical caseload where you work? (circle one)
1) less than 100 2) 101-200 3) 201-300 4) more than 300

4) Does your medical facility provide any nurse or physician anesthesia training? (circle one)
1) Yes 2) No

5) Is your facility a primary site for nurse or physician anesthesia residency programs? (circle one)
1) Yes 2) No

6) Describe your role as patient educator **during the perioperative period**.

_____
_____
_____
_____
_____
_____

7) What makes this role easy or more difficult for you?
Please Describe_____
_____
_____
_____
_____
_____

8) Please describe your role in patient education **outside the perioperative setting** (example: teaching women about labor epidural prior to confinement or instructing in healthy heart classes)?

_____
_____
_____
_____
_____

9) Do you think it is important to document your patient educational activities? (circle one)
1) Yes 2) No

If yes where_____
_____
_____
_____

10) What kind of involvement do you have in professionally directed education (example: teaching in advanced cardiac life support or basic critical care classes)? Please comment_____
_____
_____
_____
_____
_____

Please provide any additional comments that might help us better understand the educational role of CRNAs. _____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

APPENDIX B

Cover Letter

Uniformed Services University of the Health Sciences
4301 Jones Bridge Road
Bethesda, Maryland 20814-4799

As a graduate student at the Uniformed Services University of the Health Sciences (USUHS), I am conducting thesis research in partial fulfillment of the requirements for the degree of Master of Science in Nursing (MSN). The purpose of this study is to gather information about the patient education practices of certified registered nurse anesthetists within and outside of the perioperative setting. I invite you to participate.

Your participation in this study is voluntary. The study has been approved by the USUHS institution review board (IRB) under protocol number T061AD-01. The study has also been approved by the United States Air Force under survey control number (SCN) USAF SCN 99-63. All responses will be kept confidential, as returned questionnaires will not be able to be linked to participating individuals. This thesis is being conducted under the supervision of Maura McAuliffe, CRNA, Ph.D. Any questions regarding this study may be directed to Dr. McAuliffe or myself at the addresses or phone numbers below.

The questionnaire will take approximately 5 minutes to complete. Informed consent is indicated by your returned, completed questionnaire. Do not provide your name on the questionnaire. Use the self addressed stamped envelope to return the completed questionnaire as soon as possible. You can find results on the USUHS web page at completion of the study. Thank you for your participation.

Sincerely,

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